

INDUSTRIES OF THE FUTURE

BestPractices

Energy Smart Technology for Today



BENEFITS

In the area of transferring Emerging Technologies

- Help industry realize projected technology benefits in energy efficiency, waste reduction, productivity, and return on investment
- Validate technology performance and costs

In the area of Technical Assistance

- Average of \$55,000 in potential annual savings per plant from IAC assessment
- Typically 10 to 20 percent in energy savings through motor system optimization, often as much as 50 percent
- Efficiency improvements of 30 to 40 percent readily achievable in steam systems
- Reduction in energy consumption and costs by 20 to 50 percent through optimization of compressed air systems

APPLICATIONS

The BestPractices Program delivers technology solutions and technical assistance to industry

- Emerging technologies to improve manufacturing processes
- Technical assistance to find cost-savings opportunities for today



BRINGING ENERGY EFFICIENCY AND COST SAVINGS TO U.S. INDUSTRY

The BestPractices Program provides integrated delivery of energy-saving products, services, and technologies to the nine Industries of the Future (IOF): agriculture, aluminum, chemicals, forest products, glass, metalcasting, mining, petroleum, and steel industries. In coordination with the industry-specific and industry-wide programs of the Office of Industrial Technologies (OIT), BestPractices provides technical assistance to help these industries increase energy efficiency, reduce waste, and boost productivity. The BestPractices team includes representatives of the IOF partnerships, Industrial Assessment Centers (IACs), and OIT's former Challenge programs for motors, steam, and compressed air. The team applies a plant-wide systems approach in identifying opportunities for significant savings and application of emerging technologies.

Bringing Emerging Technologies Into Use

Advanced technology solutions developed with OIT support are emerging from R&D and are ready for demonstration and use. BestPractices helps deliver these solutions to IOF end users by supporting OIT Programs in Showcase Demonstration and working with IOF customers in Technology Implementation.

• Showcase Demonstration

OIT sponsors showcases to demonstrate emerging technologies and their performance benefits under real-use conditions. The effort includes an independent third-party to validate technology performance and costs in comparison to baseline practice; each technology with validated performance benefits will receive an OIT Certificate of Recognition.

• Technology Implementation

Industry views the use of emerging technologies as a risk unless ample performance data have been collected under various use conditions. To overcome this barrier, BestPractices offers cost-sharing support to facilitate technology adoption. Technologies eligible for implementation assistance must have completed the full-scale demonstration phase. Eligible technologies include those developed through the IOF partnerships, OIT Financial Assistance Program, and Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) grants.

Providing Technical Assistance to Boost Productivity

BestPractices technical assistance targets immediate cost-saving opportunities and productivity improvements for IOF customers. Technical assistance includes a continuum of services—from energy assessments and evaluations, through information on industrial equipment and systems, to tools and resources for measuring the effectiveness of new technologies. Technical experts on industrial systems and processes are available to assist with the matching and integration of components within and among plant systems.

- **Plant-wide Energy Assessments**

Depending on the industry, energy can account for 10 percent or more of total operating costs. BestPractices offers a range of assessments to identify savings opportunities.

- Free, one-day assessments of small- to mid-sized plants by our university-based IACs
- Targeted plant technical assistance visits by technical experts from U.S. Department of Energy (DOE) national laboratories and other staff
- Plant-wide assessments to help develop a comprehensive plant strategy to increase efficiency, reduce emissions, and boost productivity; competitive solicitation process with up to \$100,000 in matching funds

- **Information Clearinghouse and Products**

The OIT Clearinghouse functions as the central access point for OIT products and services. Knowledgeable staff is on hand to field questions, provide advice, and disseminate products. Information products available through the Clearinghouse include fact sheets, case studies, sourcebooks, newsletters, tip sheets, software, and energy assessment reports.

- **Software Tools and Training**

Software decision tools are available to help plants save money through proper selection and efficient operation of equipment. These tools include:

- *MotorMaster+*—repairing or replacing electric motors with recommendations on purchasing selections
- *ASDMaster*—evaluating the use of adjustable speed drives
- *PSAT*—finding potential savings in your pump systems
- *3E Plus*—optimizing savings in steam pipes and equipment

Training classes are offered around the country focusing on topics such as:

- How to get top performance from your steam system
- Understanding pump systems
- Introduction to motor system management
- Fundamentals of compressed air systems
- Advanced management of compressed air systems



BestPractices is part of the Office of Industrial Technologies' (OIT's) Industries of the Future strategy, which helps the country's most energy-intensive industries improve competitiveness over the next 20 years. BestPractices brings together best-available and emerging technologies and practices to help companies begin improving energy efficiency, environmental performance, and productivity right now.

BestPractices focuses on plant systems, where significant efficiency improvements and savings can be achieved. Industry gains easy access to near-term and long-term solutions for improving the performance of motor, steam, compressed air, and combined heat and power systems. Another component is the Industrial Assessments Centers, which provide comprehensive industrial assessments to small and medium-size manufacturers.

**FOR ADDITIONAL INFORMATION,
PLEASE CONTACT:**

Eric Lightner
Office of Industrial Technologies
Phone: (202) 586-8130
Fax: (202) 586-1658
Eric.Lightner@ee.doe.gov
www.oit.doe.gov/bestpractices

The Information Clearinghouse
Phone: (800) 862-2086
Fax: (360) 586-8303
industryline@energy.wsu.edu

Please send any comments,
questions, or suggestions to
webmaster.oit@ee.doe.gov

Visit our home page at
www.oit.doe.gov

Office of Industrial Technologies
Energy Efficiency
and Renewable Energy
U.S. Department of Energy
Washington, D.C. 20585



April 2000